BCA (Sem.–3)

DATA STRUCTURES

Subject Code : BSBC-302 (2011 Batch)

Paper ID : [B0229]

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**

2. **SECTION-B contains SIX questions carrying TEN marks each and students has to attempt any FOUR questions.**

SECTION-A

1. **Write briefly :**

   a. What is time space trade-off?

   b. What do you mean by Algorithm Complexity?

   c. Define Searching. Name two techniques for the same.

   d. Differentiate between Polish Notation and Reverse Polish Notation.

   e. How can one traverse the circular queue?

   f. Define the height of a binary tree.

   g. What do you mean by Garbage Collection?

   h. What is 'Generalized list'?

   i. What is the function of Priority Queue(s)?

   j. How does Binary tree differ from simple tree?

SECTION-B

2. Name and explain, in detail, different types of Data Structures. Also explain significance of each.

3. What are the points to be considered before choosing a technique for Garbage Collection? Discuss different techniques for Garbage Collection.

4. Discuss different Sorting Algorithm(s) in detail along with their complexities.

5. Define Circular Queues. How can one insert/delete an item to a circular queue?

6. Explain the following :

   (a) Recursion

   (b) Dynamic Storage Management

7. How can one traverse a binary tree? Discuss in detail with example(s).